

OREGON FISH SCREENS PROJECT

9306600

SHORT DESCRIPTION:

Fabricate and install fish screens in John Day, Umatilla, & Walla Walla Basins to protect downstream juvenile passage for Fall and Spring Chinook and Summer Steelhead. Build and install DeNiel fish passage structures in the Trout Creek (Deschutes Basin) to ensure access for Deschutes Summer Steelhead to habitat improved by BPA funded restoration efforts.

SPONSOR/CONTRACTOR: ODFW

Oregon Department of Fish and Wildlife

Roy Elicker, Program Manager, Fish Screening and Passage Program

PO Box 59, Portland, OR 97207

503/872-5252 x5411 Roy.Elicker@state.or.us

GOALS

GENERAL:

Supports a healthy Columbia basin, Maintains biological diversity, Increases run sizes or populations, Provides needed habitat protection

ANADROMOUS FISH:

Habitat or tributary passage

NPPC PROGRAM MEASURE:

7.6B. Habitat Policies

RELATION TO MEASURE:

By ensuring adequate fish passage, both with proper fish screening devices in the John Day, Walla Walla, and Umatilla Basins, and with DeNiel structures in Trout Creek, this project addresses the Fish and Wildlife Program habitat policies contained in 7.6B.1 through 7.6B6.

TARGET STOCK

LIFE STAGE

MGMT CODE (see below)

Walla Walla Spring Chinook	Juvenile	A
Walla Walla Summer Steelhead	Juvenile	N,W
Umatilla Fall Coho	Juvenile	A
Umatilla Fall and Spring Chinook	Juvenile	A
Umatilla Summer Steelhead	Juvenile	N,W
Deschutes Summer Steelhead	Adult, Juvenile	N, W
John Day Summer Steelhead	Juvenile	N,W
John Day Spring and Fall Chinook	Juvenile	N,W

AFFECTED STOCK

BENEFIT OR DETRIMENT

Resident fish	Beneficial
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BACKGROUND

Stream name:

mainstem John Day, Walla Walla, Umatilla, Trout Creek

Subbasin:

John Day, Walla Walla, Umatilla, Deschutes

Stream miles affected:

numerous locations

HISTORY:

Fish Screening: Through the State fish screening program and other federal moneys (BPA \ Mitchell Act) numerous fish screens

and passage facilities have been installed in the Upper Columbia River sub-basins of eastern Oregon. This Project will provide substantial protection and enhancement of anadromous and resident stocks in the John Day, Umatilla, and Walla Walla Basins. Fish Passage: In the period between 1986 and 1994, BPA funded habitat improvement work in the Trout Creek Watershed. During that time, 132 miles of riparian fence, 4,764 habitat structures, 11 spring developments, 20,923 feet of bank stabilization, 35 fish screens, and 750 cubic yards of spawning gravel was installed to improve summer steelhead habitat in an effort to increase natural production.

This project will supplement this previous habitat work on Trout Creek by improving passage at 13 gravity diversion structures. Currently local landowners push up gravel berms annually to impound water to supply gravity diversions. These berms typically are installed with heavy machinery in April and are only removed by high water, usually in January. These berms delay or prevent upstream migration of adult steelhead, downstream migration of steelhead smolts, and the upstream migration of juvenile steelhead attempting to move upstream to cooler head waters as water temperatures increase in the summer.

BIOLOGICAL RESULTS ACHIEVED:

It is well documented that fish screening of pump and gravity water diversions provide substantial protection for juvenile fish stocks of both anadromous and resident fish. The enhancement of the Trout Creek Basin by the installation of DeNiel passage structures will greatly improve passage of wild summer steelhead at the thirteen gravity diversion sites throughout the mainstem of Trout Creek and allow these fish stocks to take full advantage of the improved habitat.

PROJECT REPORTS AND PAPERS:

Quarterly and annual reports regarding fish screening activities have been submitted to NMFS. Fish passage Progress reports and billings are due monthly.

ADAPTIVE MANAGEMENT IMPLICATIONS:

Properly constructed and maintained fish screens have been shown to be effective in protecting juvenile Chinook and steelhead stocks. The Fish Passage work on Trout Creek will improve access for salmonid stocks to critical habitat. The level of detail provided in this section should reflect a pre-proposal stage of planning, and should be sufficient to allow reviewers to ascertain the main tasks and products produced by the project. Additional detail on each project's design and tasks will be collected at the contracting stage. For reviews of ongoing projects, information from past statements of work will be made available. This section is generally broken down into questions about why the project is needed, how you will do it, what it will deliver, and how it will be monitored and evaluated. The questions are generalized to apply to many types of projects, answer in terms of the needs, methods,

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:

Complete the installation of modern fish screens on 30 - 40 gravity diversions and pump intakes in the listed Basins (see Short Description). The Trout Creek fish passage project will provide unobstructed passage for migrations of adults and juveniles to achieve full seeding and utilization of suitable rearing habitat.

CRITICAL UNCERTAINTIES:

None for either fish screening or passage.

BIOLOGICAL NEED:

Fish Screening: Past monitoring in similar situations has documented that individual unscreened water diversions can result in the loss of large numbers of juvenile salmon and steelhead. Fish Passage: The Trout Creek Basin supports a remnant population of natural producing wild summer steelhead. Summer steelhead produced in the Basin contribute to sport fisheries in the Deschutes and Columbia River. Trout Creek and its tributaries also support a locally important recreational resident trout fishery. Steelhead production capacity of Trout Creek is estimated at 1,984 adults and 45,708 smolts (US v. Oregon - Trout Creek steelhead production report). Current spawner escapement, however, is estimated at >250 adults. Adult steelhead are being blocked or detrimentally delayed on their upstream migration by the annual creation of the push-up irrigation water diversion barriers, resulting in the failure to seed suitable spawning and rearing habitat. Juvenile steelhead are likewise being blocked from suitable rearing habitat by these push-up irrigation diversion barriers.

METHODS:

Fish Screening: The design and installation of effective fish screen devices is well understood for pump and gravity diversions.
Fish Passage:

1. Easements. ODFW will negotiate easements to allow construction of these passage structures on private lands.
2. Design. ODFW will perform design work and planning of these structures.
3. Construction. ODFW will contract the construction of the diversions and fish ladders.
4. Operation and Maintenance. ODFW will operate and maintain these diversions and fish ladders.

PLANNED ACTIVITIES

SCHEDULE:

Implementation Phase **Start** January 97 **End** December, 2003 **Subcontractor**

Task Fish Screening: 1997 through 2001 -Construction of approximately 30- 40 screens per year. Fish Passage: 1997 through 2002 - Engineering and installation of diversion/fish ladder structures at the rate of two (2) per year. 2003 - Engineering and installation of final diversion/fish ladder structure.

O&M Phase **Start** 1998 **End** 2008 **Subcontractor**

Task 1998- 2008 - Operation and Maintenance of diversion/fish ladder structures.

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

None really for either the fish screening devices or DeNiel structures. Adverse weather may limit construction activities at times. Landowners also may have reasons for construction delays.

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:

Fish screening efforts will increase the survival odds of juvenile salmonids in the John Day, Umatilla, and Walla Walla Basins. Fish passage structures in the Trout Creek system will increase successful steelhead spawning efforts and increase survival odds for juvenile steelhead and other salmonids by allowing them to migrate to suitable spawning rearing habitat.

Physical products:

A minimum of 150 gravity and/or pump fish screening devices will be fabricated and installed. Thirteen DeNiel fish passage structures will be built and installed.

Information products:

There will be some monitoring at selected fish screening sites, and also possibly at some DeNiel structure sites.

MONITORING APPROACH

Fish Screening: The design and installation of effective fish screen devices is well understood. Some fish screening devices will be installed with trap boxes to monitor the number of juveniles going through the bypass system.

Fish Passage:

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Data analysis and evaluation:

Juvenile numbers can be evaluated using trap box data.

Information feed back to management decisions:

Quarterly reports / meetings

EVALUATION**Increasing public awareness of F&W activities:**

The installation of fish screening devices in the John Day and other Basins, and of the DeNeil ladder structures in Trout Creek will increase public awareness of fish and wildlife efforts primarily through landowner and community contacts.

RELATIONSHIPS**RELATED BPA PROJECT****RELATIONSHIP**

9304200 Has provided habitat restoration work in Trout Creek.

9404000 Fish Passage - Projects share some equipment and personnel

9304500 Fish Passage - Projects share some equipment and personnel

9304200 Fish Passage - Projects share some equipment and personnel

OPPORTUNITIES FOR COOPERATION:

None for fish screening. The cooperation of the private landowners along Trout Creek is mandatory for a successful fish passage project. Preliminary discussions with affected landowners have been positive and supportive of the project so far.

COSTS AND FTE

1997 Planned: \$369,600

FUTURE FUNDING NEEDS:**PAST OBLIGATIONS (incl. 1997 if done):**

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$426,000		99%	5%
1999	\$432,000		98%	2%
2000	\$440,000		97%	3%
2001	\$500,000		97%	3%
2002	\$200,000		88%	12%

<u>FY</u>	<u>OBLIGATED</u>
1993	\$367,444
1994	\$1,347,723
1996	\$249,456
TOTAL:	\$1,964,623

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

OTHER NON-FINANCIAL SUPPORTERS:

Participating landowners are an essential part of both projects.

LONGER TERM COSTS:

Operation and Maintenance costs for the 13 DeNeil fish passage structures should average \$2000 - \$2500 per structure per year through the year 2008 or about \$162,000.

1997 OVERHEAD PERCENT: 20.5%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:

Only to a portion. Personal Services and Supplies but not Capital Outlay or Contractual Services.

CONTRACTOR FTE:

Approximately 2 FTE's each year through 2001. Each FTE in the Oregon state financial system is 24 months of budgeted position(s).
